

Study on reworked mortars using St Astier NHL 3.5

Mortar mixes prepared:	250 kg/m ³ (1:2.5) 350(1:2) 400(1:1.5)
Proctors preparation:	for each of the above dosages a series of proctors were prepared with normal water addition and tested. Others were prepared with the same mortar 18 hours later reworking the mortar and adding extra water until the required workability was obtained.
Remarks:	The water added in re-working was approx. 1/6 of the water used initially to mix the mortars. The reworked mortars were much fatter with a lower bulk density (less 2.6%-4%). The Compressive Strength of reworked mortars is lower due to the lower bulk density but, if the reworked mortar is compacted more (in practical terms this means that, on a render, it would be pressed harder) and its bulk density increased to that of the normal mortar, the compressive strength increases. In reworked mortars with higher dosages the Compressive Strength is even higher than in standard mortars.
Conclusion	It is possible to rework St. Astier NHL mortars. Their performance related to compressive strength will be lower than standard mortars unless the reworked mortar is tightly applied to return to a bulk density similar to the standard mortar. The reworked mortar has a higher workability.

It would not be possible to rework the mortars if the St. Astier binders would contain additions of cement, gypsum or would have a higher content of aluminates as all these would promote an irreversible quicker set.

	Standard	Reworked	Standard	Reworked	Standard	Reworked
NHL 3.5 Dosage (kg/m ³)	250	250	350	350	400	400
Water Add. (liters)	270	270	290	290	305	305
Extra Water		50		50		50
Time for Rework		18 h		18 h		18 h
Density 28 days) Kg/m ³	1900	1840	1900	1840	1900	1840
Comp. Strength (N/mm ²)	0.93	0.56	1.25	0.81	1.56	1.08
Increased Density Kg/m ³)		1900		1900		1900
Comp. Strength On Increased Density (28 days) N/mm ²		0.77		1.48		1.93

For further Guidance, contact your St Astier Distributor.

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